CITY OF SANTA BARBARA

COUNCIL AGENDA REPORT

AGENDA DATE: January 9, 2007

TO: Mayor and Councilmembers

FROM: Water Resources, Public Works Department

SUBJECT: Contract For A Study Of Pollutant Sources In Lower Mission Creek With The U.S. Department Of The Interior, U.S. Geological Survey

RECOMMENDATION:

That Council authorize the Public Works Director to execute a contract with the U.S. Department of the Interior, U.S. Geological Survey (USGS), in an amount not to exceed $59,000, for the third and final year of a study to evaluate sources of microbial contamination in Mission Creek and the nearby surf zone.

DISCUSSION:

BACKGROUND

This is the final year of a three-year study to evaluate sources of microbial contamination in Mission Creek and the nearby surf zone, as this area routinely has elevated levels of fecal coliform bacteria. To date, the City has contributed $290,000 to this study, USGS has contributed $84,000, and Heal the Ocean has contributed $73,000. With the City's allocation of $59,000 and an additional $59,000 from the USGS, the total City cost for this $565,000 study will be $349,000.

WORK COMPLETED

During 2005 and 2006, USGS conducted stream seepage runs on Mission Creek (an evaluation of where creeks are gaining or losing water), collected water quality data from the creek, installed 13 groundwater wells, and conducted two intensive sampling rounds to obtain data from the groundwater, stream and ocean. USGS also conducted a comprehensive evaluation of the interface between groundwater and ocean water in the subsurface along the beach using sophisticated methods such as Radon analysis and subsurface imaging, in addition to water sampling. Preliminary results show groundwater bacteria concentrations to be absent in water from wells in inland areas. Bacteria

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concentrations in groundwater are higher along the beach, including in the "swash zone" near the Mission Creek lagoon; however, groundwater does not appear to be the source of contaminants in the surf zone.

PROPOSED WORK

In 2007, an additional intensive data set will be collected along West Beach and data analysis will continue. The focus of data analysis will be identification of the source of bacterial contamination using molecular and genetic data analyzed as a microbial community assemblage. This information will be used in conjunction with analysis of chemicals indicative of wastewater, and an analysis of the hydrology to identify sources of contamination. All of the data will be analyzed and USGS will write a research level paper that will be useful not only to the City, but to other communities interested in investigating similar problems. Staff from USGS and the City also anticipate presenting findings at key conferences.

FUNDING

The cost of the final phase of the study is $118,000. USGS will contribute $59,000, and the City's share is $59,000. There are sufficient funds in the Wastewater Capital Fund to cover these costs.

Cost distribution for each of the three years of the study is summarized below.

Fiscal Year	**USGS Funding**	**City Funding**	**Grant Funding Obtained by Heal the Ocean**	**Total**
2005	$ 22,000	$ 86,000		$ 108,000
2006	$ 62,000	$204,000	$ 73,000	$ 339,000
2007	$ 59,000	$ 59,000		$ 118,000
Total	**$143,000**	**$349,000**	**$ 73,000**	**$ 565,000**

PREPARED BY: Rebecca Bjork, Wastewater System Manager/RB/mh

SUBMITTED BY: Anthony J. Nisich, Public Works Director

APPROVED BY: City Administrator's Office